Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Supplemental	09/755,971	FAYYAD ET AL.
Notice of Allowability	Examiner	Art Unit	
	Mohammad Ali	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *9/29/05*.

2. ☒ The allowed claim(s) is/are *1-12,14-23,25-29,31-33,36-43,45-47,95 and 98 (renumbered as 1-44)*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
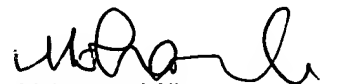
    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

Mohammad Ali
Primary Examiner
Art Unit: 2166

DETAILED ACTION

1.   This communication is in response to the Election filed on 9/29/05.

After a search and a thorough examination of the present application and in light

of the prior art made of records, claims 1-12, 14-23, 25-29, 31-33, 36-43, 45-47, 95 and

98 are allowed.

Claims 13, 24, 30, 34-35, 44, 48-94 and 96-97 have been cancelled.

EXAMINER'S AMENDMENT

2.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Attorney, Steven D. Lawrenz (Reg. No. 37,376) on October 25, 2005.

Please Amend the claims which was filed on 09/29/05 with the as follows:

In claim 12,

in line 23, after length; please delete and.

line 26 after sequences please insert --; and wherein the identifying of the

sequences of interaction events of length 1 includes creating a data structure with a root

element and multiple children elements of the root element, each child element

representing one of the determined interaction events and being associated with the

identified sequence of length 1 that consists of that one determined interaction event,

the children elements forming a current lowest level of the data structure, and wherein

the generating of candidate sequences of a length one greater than the current longest

length includes expanding the data structure by adding a new lowest level of elements

to the data structure such that the added elements are children elements to the

elements of a previous lowest level of the data structure, each of the added children

elements representing one of the determined interaction events and having an

associated sequence of interaction events that is one of the generated candidate

sequences--.

Please cancel claim 13.

In claim 14,

line 1, after claim please delete 13 and insert --12--.

In claim 15,

line 1, after claim please delete 13 and insert --12--.

In claim 23,

in line 23, after length; please delete and.

line 26 after sequences please insert --; and wherein the identifying of the

sequences of interaction events of length 1 includes creating a data structure with a root

element and multiple children elements of the root element, each child element

representing one of the determined interaction events and being associated with the

identified sequence of length 1 that consists of that one determined interaction event,

the children elements forming a current lowest level of the data structure, and wherein

the generating of candidate sequences of a length one greater than the current longest

length includes expanding the data structure by adding a new lowest level of elements

to the data structure such that the added elements are children elements to the

elements of a previous lowest level of the data structure, each of the added children

elements representing one of the determined interaction events and having an

associated sequence of interaction events that is one of the generated candidate

sequences--.

Please cancel claim 24.

In claim 25,

in line 1, after claim please delete 24 and insert --23--.

In claim 26,

in line 1, after claim please delete 24 and insert --23--.

In claim 28,

in line 23, after length; please delete and.

line 26 after sequences please insert --; and wherein the identifying of the

sequences of interaction events of length 1 includes creating a data structure with a root

element and multiple children elements of the root element, each child element

representing one of the determined interaction events and being associated with the

identified sequence of length 1 that consists of that one determined interaction event,

the children elements forming a current lowest level of the data structure, and wherein

the generating of candidate sequences of a length one greater than the current longest

length includes expanding the data structure by adding a new lowest level of elements

to the data structure such that the added elements are children elements to the

elements of a previous lowest level of the data structure, each of the added children

elements representing one of the determined interaction events and having an

associated sequence of interaction events that is one of the generated candidate

sequences--.

Please cancel claim 30.

In claim 31,

in line 1, after claim please delete 30 and insert --28--.

In claim 32,

in line 1, after claim please delete 30 and insert --28--.

In claim 33,

in line 16, after sequences; please delete and.

line 19 after occur please insert --; wherein the generating of the candidate

sequences of interaction events includes creating a multi-level data structure having a

root element and a plurality of other elements, a first of the levels of the data structure

having elements that are children elements of the root element, each of the other levels

having elements that are children elements of elements of a previous level, and each of

the other elements representing one of the interaction events and being associated with

one of the generated candidate sequences; and

wherein each element other than the root element has an associated sequential

path of elements between the root element and that element, a first element in each

sequential path being a child element of the root element, each element in each

sequential path other than the first element being a child element of the previous

element in the sequential path, and wherein the sequence of interaction events that is

associated with each node other than the root node consists of a sequence of the

interaction events represented by the elements in the path associated with that node

followed by the interaction event represented by that node--.

Please cancel claims 34-35.

In claim 36,

in line 1, after claim please delete 34 and insert --33--.

In claim 43,

in line 16, after sequences; please delete and.

line 19 after occur please insert --; wherein the generating of the candidate

sequences of interaction events includes creating a multi-level data structure having a

root element and a plurality of other elements, a first of the levels of the data structure

having elements that are children elements of the root element, each of the other levels

having elements that are children elements of elements of a previous level, and each of

the other elements representing one of the interaction events and being associated with

one of the generated candidate sequences; and

wherein each element other than the root element has an associated sequential

path of elements between the root element and that element, a first element in each

sequential path being a child element of the root element, each element in each

sequential path other than the first element being a child element of the previous

element in the sequential path, and wherein the sequence of interaction events that is

associated with each node other than the root node consists of a sequence of the

interaction events represented by the elements in the path associated with that node followed by the interaction event represented by that node--.

In claim 46,

in line 16, after sequences; please delete and.

line 19 after occur please insert --; wherein the generating of the candidate sequences of interaction events includes creating a multi-level data structure having a root element and a plurality of other elements, a first of the levels of the data structure having elements that are children elements of the root element, each of the other levels having elements that are children elements of elements of a previous level, and each of the other elements representing one of the interaction events and being associated with one of the generated candidate sequences; and

wherein each element other than the root element has an associated sequential path of elements between the root element and that element, a first element in each sequential path being a child element of the root element, each element in each sequential path other than the first element being a child element of the previous element in the sequential path, and wherein the sequence of interaction events that is associated with each node other than the root node consists of a sequence of the interaction events represented by the elements in the path associated with that node followed by the interaction event represented by that node--.

Please cancel claim 48.

In claim 95,

in line 1, after memory, please insert--,to be accessed by an application program

being executed on a data processing system--.

line 11, after events please insert --; wherein each element other than the root

element has an associated sequential path of elements between the root element and

that element, a first element in each sequential path being a child element of the root

element, each element in each sequential path other than the first element being a child

element of the previous element in the sequential path, and wherein the candidate

sequence of interaction events that is associated with each node other than the root

node consists of a sequence of the interaction events represented by the elements in

the path associated with that node followed by the interaction event represented by that

node; and

for each interaction event represented by a child element of the root element, a

linked list data structure that is associated with that interaction event such that the

linked list data structure includes entries for at least one of the other elements, so that

as the data structure is validated against one of the groups of interaction events by

selecting in order each interaction event in the group, if the selected interaction event is

one of the interaction events having an associated linked list data structure, the score of

each of the elements having entries in the associated linked list data structure can be

incremented--.

Please cancel claims 96-97.

Reason for Allowance

3.   The prior art made of records does not teach or fairly suggest the combination of

elements, as recited in independent claims 1, 12, 23, 28, 33, 43, 46 and 95. More

specifically, the prior art of records does not specifically suggest wherein repeatedly

expanding the tree data structure by adding a new lowest level of nodes that are

children nodes to the nodes of a previous lowest level of the tree data structure, the

added children nodes such that each of the determined Web pages has a node that

represents that determined Web page that is added as a child node to each of the

nodes of the previous level, each of the added children nodes having an associates

sequence of Web pages consisting of the determined Web pages that are represented

by the nodes in a path from the root node to that node; determining the nodes of the

tree data structure whose associated sequence of Web pages is visited in order non-

consecutively during more of the identified user browsing sessions than the minimum

threshold, and removing the nodes of the tree data structure that are not among the

determined nodes, such that after creation of the tree data structure is completed, the

sequences of Web pages that are associated with the nodes remaining in the tree data

structure are the identified sequences of the Web pages that were frequently visited in

order non-consecutively during the identified user browsing sessions recites in claim 1;

and the prior art of record does not teach or suggests the combination of elements as

amended by an Examiners amendment in claims 12, 23, 28, 33, 43, 46 and 95.

The dependent claim, being definite, further limiting, and fully enabled by the specification and are also allowed.

Contact Information

4.   Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Ali whose telephone number is (571) 272-4105. The examiner can normally be reached on Monday-Thursday (7:30 am-6:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mohammad Ali
Primary Examiner
Art Unit 2166